

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A cell-filled device, comprising:

hollow fiber membranes having inner walls which define hollow portions and modified cross-sections ~~which are shaped as~~ said cross-sections having initial shapes of perfect circles and being modified by pressing or by rolling to form cross-sections of deformed perfect circles; and

a cell aggregate ~~provide~~ provided in each of the hollow portions, each cell aggregate having cells accumulated to form two or more layers in any radial direction, wherein,

a distance from any point of the cell aggregate to the inner wall cannot be 75  $\mu$ m or more.

2. (previously presented) The cell-filled device according to claim 1, wherein the distance to the nearest inner wall of the hollow fiber membrane is 50  $\mu$ m or less.

3. (currently amended) The cell-filled device according to claim 1, wherein the modified cross-section hollow fiber membrane ~~is in a flat form~~ is made of a synthetic polymer having

a contact angle of 70 degrees or less such that the ~~ferm~~ hollow fiber membrane has a contact angle of 70 degrees or less, and the cross-section of the hollow fiber membrane is modified such that the perfect circle cross-section is deformed to an oval shape.

4. (previously presented) The cell-filled device according to claim 1, wherein a pore size of the hollow fiber membrane is 0.001 to 5  $\mu\text{m}$ .

5. (previously presented) The cell-filled device according to claim 4, wherein the pore size is 0.05 to 1  $\mu\text{m}$ .

6. (previously presented) The cell-filled device according to claim 1, wherein the hollow fiber membrane is made of a synthetic polymer having a contact angle of 70 degrees or less.

7. (previously presented) The cell-filled device according to claim 6, wherein the synthetic polymer comprises a thermoplastic resin.

8. (previously presented) The cell-filled device according to claim 7, wherein the thermoplastic resin comprises a polyethylene-based resin.

9. (previously presented) The cell-filled device according to claim 1, wherein at least an inner surface of the hollow fiber membrane contains a hydrophilic polymer.

10. (previously presented) The cell-filled device according to claim 1, wherein the cells comprise cells derived from an animal tissue.

11. (previously presented) The cell-filled device according to claim 10, wherein the cells derived from an animal tissue comprise at least one kind of cell selected from the group consisting of cells derived from a liver, cells derived from a spleen, stem and precursor cells thereof, and genetic recombinant cells.

12. (previously presented) The cell-filled device according to claim 11, wherein the cells derived from an animal tissue comprise hepatic cells.

13. (previously presented) The cell-filled device according to claim 10, wherein the cells derived from an animal tissue comprise cells derived from a human organ.

14. (previously presented) A cell-filled device, comprising hollow fiber membranes and cells, provided as the

cell-filled device for implantation according to claim 1, wherein each of the hollow portions contains a cell aggregate and both ends of each hollow fiber membrane are sealed.

15-16. (cancelled)

17. (previously presented) A hybrid artificial organ, comprising:

at least one cell-filled device according to claim 1;  
and

a container having an inlet and an outlet for a liquid to be treated, said container housing said at least one cell-filled device,

wherein the hollow portions of the hollow fiber membranes of the cell-filled device provide a communication path from the inlet to the outlet for the liquid to be treated.

18-29. (canceled)

30. (currently amended) The cell-filled device according to claim 1, wherein the modified cross section is a shape selected from the group consisting of a triangle, a rectangle, a ~~diamond~~ deformed rectangle having diagonal axes of unequal length, a ~~dumbbell~~ deformed oval having opposing concave

sections on each side wall, a letter "C", and a ~~fivepointed~~ five-  
pointed star.

31. (previously presented) The cell-filled device according to claim 30, wherein the triangle shape has concave sides.

32. (previously presented) The cell-filled device according to claim 30, wherein the rectangle shape has concave sides.